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Mellanox Care User Manual

Rev 1.0

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About This Manual

This document describes the features, performance, and configuration of the Mellanox Care application.

Intended Audience

This Mellanox Care Quick User Manual is intended for server and network administrators that would like to set Mellanox Care central management service.

Document Conventions

The following conventions are used in this document.

NOTE: Identifies important information that contains helpful suggestions.

CAUTION: Alerts you to the risk of personal injury, system damage, or loss of data.

WARNING: Warns you that failure to take or avoid a specific action might result in personal injury or a malfunction of the hardware or software. Be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents before you work on any equipment.

1 Mellanox Care Overview

Mellanox Care service is an advanced management service which provides around-the-clock monitoring tool, accompanied by expert troubleshooting analysis of the customer's InfiniBand and fabric.

Mellanox Care monitors all switch gateways and servers for critical events, including errors on the physical fabric level, configuration changes, performance monitoring errors, communication errors, and other device-related events that could affect the status of temperature, power, and hardware modules. Deploying this application enables Mellanox to provide a more efficient and personalized support experience.

Mellanox Care service is based on a proactive Care platform that automatically samples Events/ Alarms data from Mellanox Health Engine and checks if there are any critical alarms reported. Once a case is open, Mellanox NOC experts are committed to analyze the information and decide on a course of action in order to solve all issues immediately and keep the InfiniBand fabric up and at peak performance at all times.

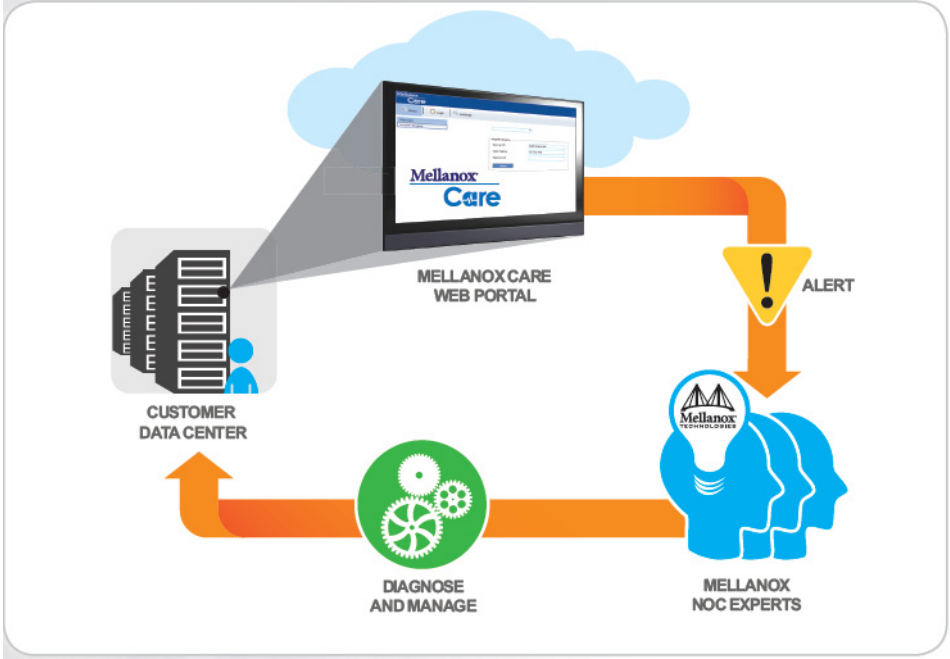
1.1 Mellanox Care Benefits

- Optimizes Fabric: Maximizes the performance and uptime of the fabric, while minimizing costs from unexpected malfunctions thus improving the ROI
- Saves Precious Time: Monitors your fabric 24/7 and quickly alerts you of any potential problem thus allowing your staff to focus on the mission-critical aspects of the cluster
- Maximizes Uptime: Quick, expert identification and resolution of fabric issues on top of preventive monitoring avoids long downtime and troubleshooting periods
- Improves Fabric Reliability: Enhances your fabric serviceability and reliability while offering the best user experience
- Non-intrusive: Performs low foot print monitoring. Only operational data is being sent. No actual traffic or sensitive information is being collected in the process

2 Mellanox Care Architecture

Mellanox Care communicates with network devices and the fabric manager throughout the management network interface with zero impact on InfiniBand production network traffic.

Figure 1: Mellanox Care Architecture



2.1 Mellanox Care Communication Protocols

The following are communication protocols used by Mellanox Care:

Table 1 - Mellanox Care Communication Protocols

Protocol	Port #	Description
SSH	22	Mellanox Care communicates with the managed devices via SSH in order to upload scripts to the switches and servers and download the required logs from servers and switches.
FTP	21	Mellanox Care uses FTP to send log files to Mellanox Support.
HTTP/ HTTPS	80/ 443	Mellanox Care uses HTTP for web UI. HTTP is also used for contacting the Health Engine SDK.
SMTP	25 OR 465	Mellanox Care sends e-mail notifications to Mellanox NOC via SMTP (outgoing port).

2.2 Network Security

Mellanox Care does not collect any data, passwords, or information about fabric usage stored on the system. The only files that are transmitted to Mellanox are the aforementioned diagnostics logs. Log files are compressed into a password-protected archive, which is sent over FTP/SFTP

to the Mellanox Support encrypted library. All logs, located behind a firewall, are managed and monitored by the Mellanox network security team. SSH access configuration settings of Mellanox Care local fabric components are encrypted into a local secured application database.

3 Installing Mellanox Care

The Mellanox Care application is deployed by a Mellanox expert, as part of the Mellanox Care service package. Mellanox Care can be installed on:

- A single standalone dedicated server
- A central management node
- The same UFM server (in case a UFM server already exists on the customer's fabric)
- A Virtual Machine (VM) - Open Standard Format (OVF)

  Mellanox provides an open format VM (ova) file, which can be imported by any Hypervisor.

Each of the above options requires access to UFM server through the management network interface.

3.1 Installation Prerequisites

The following table describes Mellanox Care system requirements.

Table 2 - Installation Prerequisites

Operating System/ Package type	Description
Operating Systems	• RedHat 6.2 and above • Sles11Sp2
Operating System Packages	• cronie 1.4 and above • httpd-2.2 and above • python-2.6

3.1.1 Mellanox Care Server Resource Requirements per Cluster Size

The following resource prerequisites are relevant only to customers that already have UFM installed in their cluster.

Table 3 - Mellanox Care Server Resource Requirements per Cluster Size

Fabric Size	CPU Requirements	Memory Requirements	Disk Space Requirements	
			Minimum	Recommended
Up to 1000	4-core server	4GB	20GB	80GB
1000-5000	8-core server	16GB	40GB	120GB
5000-10000	16-core server	32GB	80GB	160GB
Above 10000 nodes	Consult with Mellanox Support			

3.1.2 Required Customer Information

The following information must be provided prior to the installation of Mellanox Care:

- An e-mail account to be used for sending e-mails to Mellanox Care NOC
- In case there is more than one site for the same account, a separate e-mail should be created for each site
- A csv file containing the device credentials. This file will be used during the Mellanox Care deployment in order to access the relevant node and collect all logs
- All the information listed in the questionnaire, which will be sent by the project delivery manager before deploying the application at the customer's site.

MellanoxCare@mellanox.com should not be added
to the recipients lists in the Reports page of the web User Interface

4 Getting Familiar with Mellanox Care Web UI

Mellanox Care is configured through the Web User Interface (UI) which is based on the customer's environment.

➢ ***To launch the Web User Interface, perform the following steps:***

Step 1. Launch an internet browser.

Step 2. In the URL field, type:

http://<MellanoxCare_IP_ADD>/mlnxcare

4.1 Mellanox Care UI Navigator Buttons

The following table describes the main Mellanox Care panels and categories.

Table 4 - Navigator Tabs

Tab Icon	Description
	Click to view and change general, e-mail, reports and remote folder configurations.
	Click to view, update, and manage fabrics and the Health Engine.
	Click to view the last 1000 lines of /opt/mlnxcare/log/mlnxcare.log file.
	Shows type of license and expiration date.
	Shows version number
	Click to run a simulation cycle to check whether application configurations were loaded correctly.
	Click to refresh the content of the User Interface.

4.2 Mellanox Care Main Tabs

4.2.1 The Settings Tab

The Settings tab includes four panels:

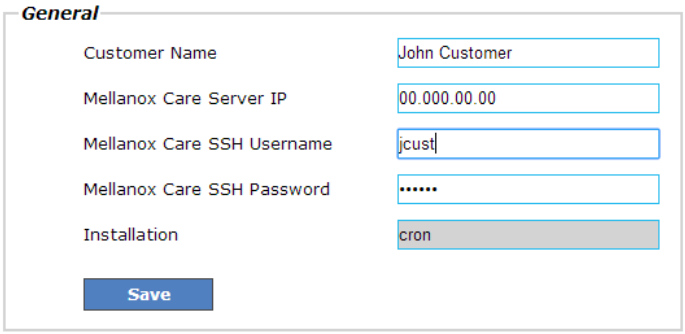
- General
- E-mail
- Reports
- Remote Folder

4.2.1.1 The General Panel Internal Structure

The General panel enables you to view or update Mellanox Care Servers. In the General window you can change the following information:

- Customer Name: Mellanox Care customer name
- Mellanox Care Server IP: Mellanox Care server IP address
- Mellanox Care SSH Username: Username of Mellanox Care server
- Mellanox Care SSH Password: Password of Mellanox Care server
- Installation: Type of installation (read only)

Figure 2: The General Panel Internal Structure



Changes must be saved before existing any tab, otherwise will be deleted

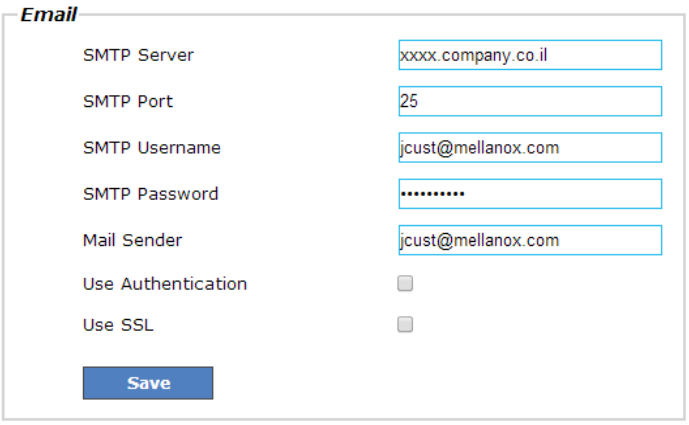
4.2.1.2 The E-mail Panel Internal Structure

The e-mail panel Includes the following e-mail settings provided by the customer:

- SMTP Server: According to the e-mail account provided by the customer
- SMTP Port: Can be 25 or 465 or any other port
- SMTP Username: According to the e-mail account provided by the customer
- SMTP Password: According to the e-mail account provided by the customer
- Mail Sender: Name of e-mail sender (same as SMTP username unless the customer provided another one).

- Use Authentication: Select when the SMTP server requires authentication
- Use SSL: Select when the SMTP server requires secured communication

Figure 3: The E-mail Panel Internal Structure



Changes must be saved before existing any tab, otherwise will be deleted

4.2.1.3 The Reports Panel Internal Structure

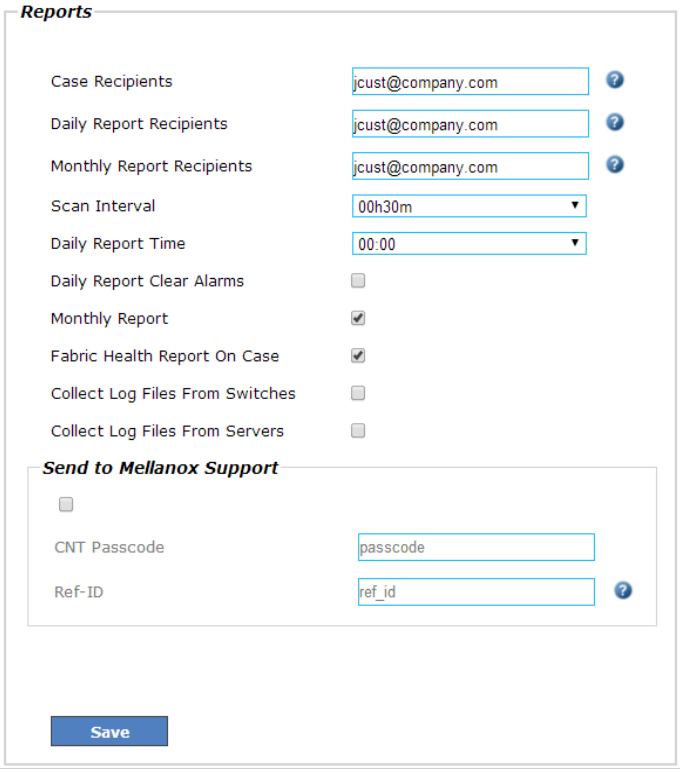
In the Reports window you can change the following information:

- Case Recipients: the contact's e-mail receiving case notifications.
- Daily Report Recipients: the contact's e-mail receiving daily reports.
- Monthly Report Recipients: the contact's e-mail receiving monthly reports
- Scan interval: The monitoring scan interval of Mellanox Care
- Daily Report Time: sets the time in which the daily reports is received.
- Daily Report Clear Alarm: Clears all UFM Alarms after each daily report.
- Monthly Report: If selected a Monthly Report will be sent automatically.
- Fabric health report on case: Generates a fabric health report via UFM every time a new case is detected.
- Collect Log Files From Switches: Enables you to collect log files and system snapshots from alarmed switches
- Collect Log Files From Servers: Enables you to collect log files and system snapshots from alarmed servers
- Send to Mellanox Support: If selected reports will be sent to the address: mlnx-care@mellanox.com
- CNT Passcode: A passcode for each customer (must be unique for each customer in order to prevent case duplication in Sales-force system)

- Ref-ID: code of daily report: To update the Ref-ID field please refer to "Updating Ref-ID Field" on page 29

mlnxcare@mellanox.com must not be added to any of the recipients fields list in the Reports Panel.

Figure 4: The Reports Panel Internal Structure



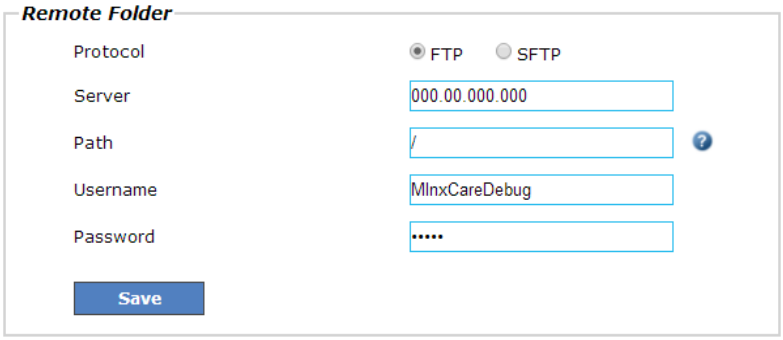
Changes must be saved before existing any tab, otherwise will be deleted

4.2.1.4 The Remote Folder Internal Structure

The Remote Folder panel includes the following configurations for the FTP folder:

- Protocol: FTP or SFTP
- Server: The IP or hostname of the FTP server (for Mellanox FTP use 139.47.165.178)
- Path: The path for the file location (has to begin with "/")
- Username: The FTP server Username

Figure 5: The Remote Folder Internal Structure



Changes must be saved before existing any tab, otherwise will be deleted

4.2.2 The Fabrics Tabs

The Fabrics tab includes the following panels:

- Manage
- Health Engine.

4.2.2.1 The Manage Panel

The Manage panel enables you to add or remove fabrics in the Mellanox Care application. The Manage panel table lists all the customer fabrics monitored by Mellanox care.

➢ ***To add a Fabric:***

Step 1. Click Add.

Step 2. Add a name for the fabric and a description (open text- each fabric name must be unique, i.e it cannot be used twice).

➢ ***To remove a Fabric:***

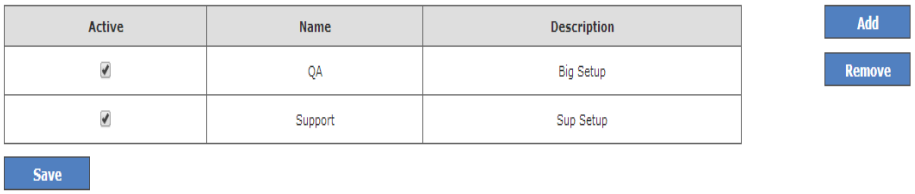
Step 1. Tick the box of the relevant Fabric.

Step 2. Click Remove.

➢ ***To stop monitoring a Fabric (recommended before fabric maintenance):***

Step 1. Uncheck the active box of the relevant Fabric.

Step 2. Click Save.



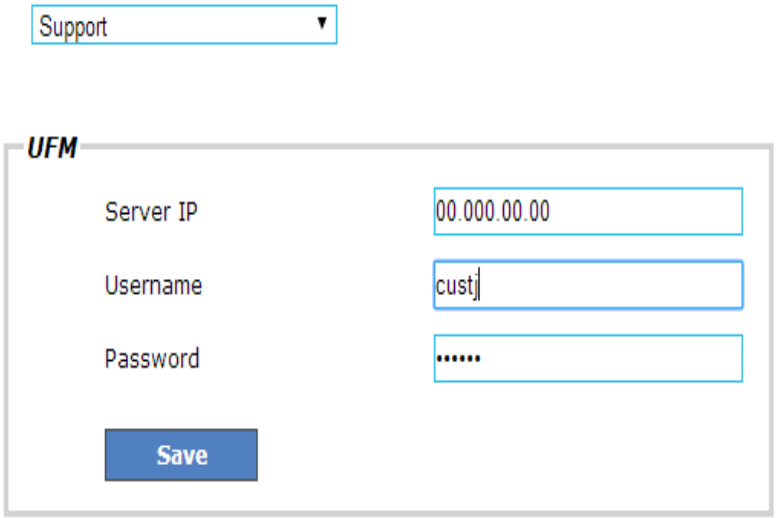
Changes must be saved before existing any tab, otherwise will be deleted

4.2.2.2 The Health Engine Panel

The Health Engine panel, enables you to add or change the server IP, Username, and Password of the Health Engine relevant to the added fabric. The drop list includes all the customer fabrics monitored by Mellanox Care (see figure 6). The Health Engine panel includes the following information:

- Server IP: UFM server IP address (OR virtual IP for UFM HA)
- User Name: UFM username
- Password: UFM password

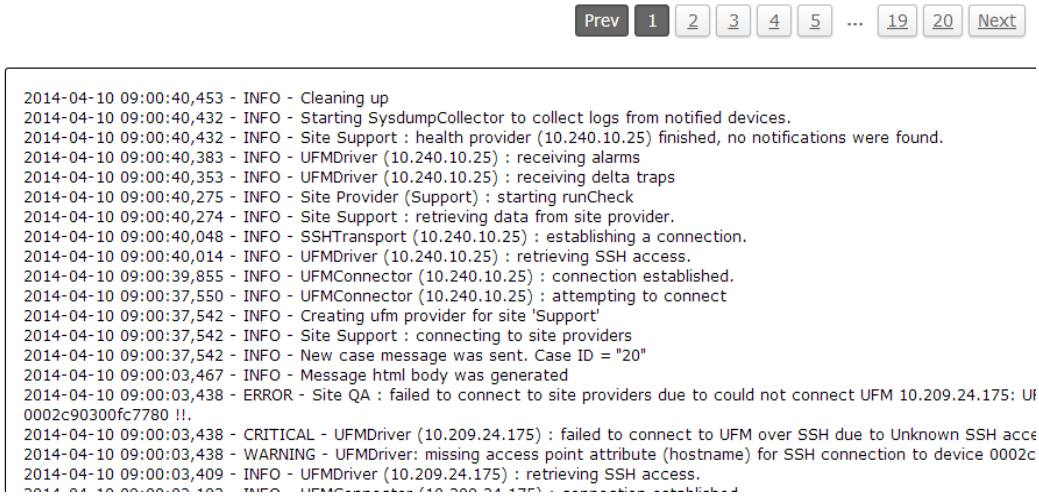
Figure 6: The Health Engine Panel



Changes must be saved before existing any tab, otherwise will be deleted

4.2.3 The Logs Tab

The Logs panel displays the last 1000 lines of /opt/mlnxcare/log/mlnxcare.log file.


Prev
1
2
3
4
5
...
19
20
Next
2014-04-10 09:00:40,453 - INFO - Cleaning up
2014-04-10 09:00:40,432 - INFO - Starting SysdumpCollector to collect logs from notified devices.
2014-04-10 09:00:40,432 - INFO - Site Support : health provider (10.240.10.25) finished, no notifications were found.
2014-04-10 09:00:40,383 - INFO - UFMDriver (10.240.10.25) : receiving alarms
2014-04-10 09:00:40,353 - INFO - UFMDriver (10.240.10.25) : receiving delta traps
2014-04-10 09:00:40,275 - INFO - Site Provider (Support) : starting runCheck
2014-04-10 09:00:40,274 - INFO - Site Support : retrieving data from site provider.
2014-04-10 09:00:40,048 - INFO - SSHTransport (10.240.10.25) : establishing a connection.
2014-04-10 09:00:40,014 - INFO - UFMDriver (10.240.10.25) : retrieving SSH access.
2014-04-10 09:00:39,855 - INFO - UFMConnector (10.240.10.25) : connection established.
2014-04-10 09:00:37,550 - INFO - UFMConnector (10.240.10.25) : attempting to connect
2014-04-10 09:00:37,542 - INFO - Creating ufm provider for site 'Support'
2014-04-10 09:00:37,542 - INFO - Site Support : connecting to site providers
2014-04-10 09:00:37,542 - INFO - New case message was sent. Case ID = "20"
2014-04-10 09:00:03,467 - INFO - Message html body was generated
2014-04-10 09:00:03,438 - ERROR - Site QA : failed to connect to site providers due to could not connect UFM 10.209.24.175: Uf
0002c90300fc7780 !!.
2014-04-10 09:00:03,438 - CRITICAL - UFMDriver (10.209.24.175) : failed to connect to UFM over SSH due to Unknown SSH acce
2014-04-10 09:00:03,438 - WARNING - UFMDriver: missing access point attribute (hostname) for SSH connection to device 0002c
2014-04-10 09:00:03,409 - INFO - UFMDriver (10.209.24.175) : retrieving SSH access.

Changes must be saved before existing any tab, otherwise will be deleted

5 Configuring Mellanox Care

5.1 Mellanox Care Devices Configuration

Table 5 - Mellanox Care Devices Configuration

Field	Description
GUID	Device GUID
Access Point Type	SSH (Secure Shell)
IP	Device IP
Port	The port being used by the access point type (valid input: default,22)
Username	Device username
Credentials	Device password

6 Mellanox Care Report Types

There are five types of reports that Mellanox Care sends automatically:

- Case reports: when a new critical alarm is found in UFM the system sends case reports
- Monthly report: a summary of the last Mellanox care scans during the last month including the amount of the cases sent during each day
- Daily report: a summary of the all the Mellanox care scans during the last 24 hours
- Exception report: reports whenever there is an issue with Mellanox care
- Manual run: same as the content of daily report. The subject heading is named as manual report

Each one of the above reports has its own configurations which is set in the reports tab. You can also update the recipients of Case, Daily and Monthly Reports. In addition, you can update the following configurations:

6.1 Case Report

A Mellanox Care case report is sent when a critical alarm is detected in the customer's fabric and it contains the following information:

- The subject field contains:
  - Case Number
  - Customer Name
  - Timestamp
- The message field contains:
  - A link to FTP where the logs (see the table below) are stored. These logs record all fabric activities and allow Mellanox support to quickly identify the problem and find a resolution.
  - A link to the customer UFM
  - The critical alarm description, which provides information about the specific faulty switch or server as well as the alarm timestamp
  - An inventory list of the fabric
  - mlnxcare version
  - Case details

6.1.1 Case Reports Derived Log Files

When a Mellanox Care case is opened, it derives the following log files automatically whenever an alert occurs:

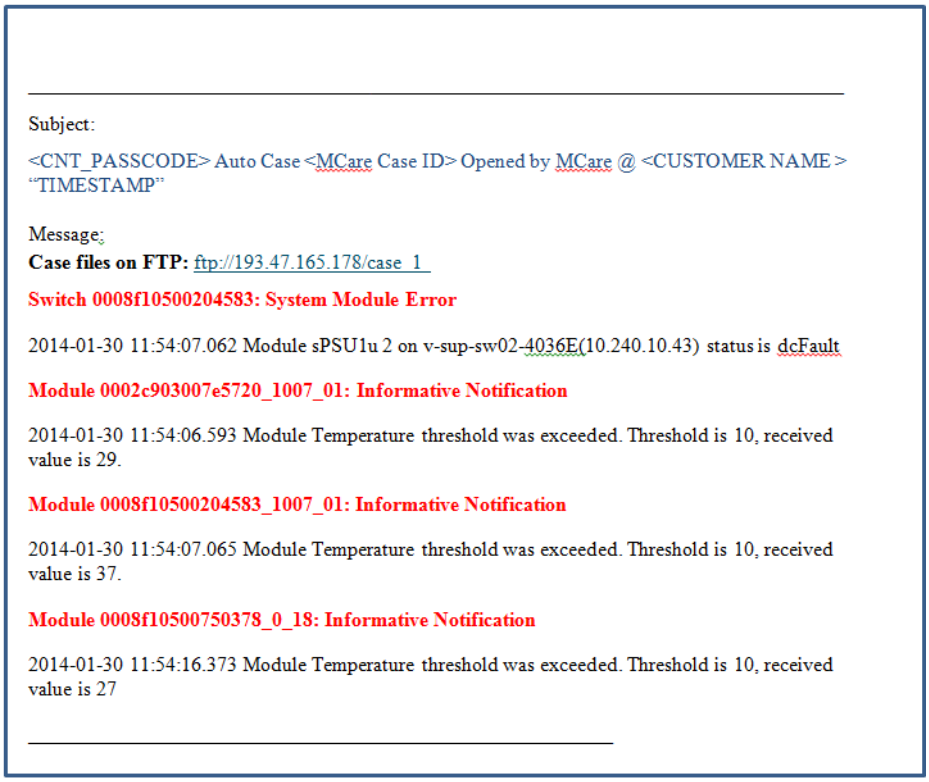
Table 6 - Mellanox Care Case Derived Log Files

Source	Description
Health Engine	System-snapshot, Cfg2html, Fabric Health report ,UFM Health report, Sm.log, Event.log, Ufm.log, ibdiagnet, ufmhealth.log, vsysinfo, and policy.csv

Table 6 - Mellanox Care Case Derived Log Files

Source	Description
Server	System-snapshot and Cfg2html
Mellanox Switch	Debug generate dump
Voltaire Switch	ExportLogs
Mellanox Care Server	Mellanox_care.log and Run_summary.log

Figure 7: Mellanox Care Case Example Report



Subject:

<CNT_PASSCODE> Auto Case <MCare Case ID> Opened by MCare @ <CUSTOMER NAME > "TIMESTAMP"

Message:

Case files on FTP: ftp://193.47.165.178/case_1

Switch 0008f10500204583: System Module Error

2014-01-30 11:54:07.062 Module sPSU1u 2 on v-sup-sw02-4036E(10.240.10.43) status is dcFault

Module 0002c903007e5720_1007_01: Informative Notification

2014-01-30 11:54:06.593 Module Temperature threshold was exceeded. Threshold is 10, received value is 29.

Module 0008f10500204583_1007_01: Informative Notification

2014-01-30 11:54:07.065 Module Temperature threshold was exceeded. Threshold is 10, received value is 37.

Module 0008f10500750378_0_18: Informative Notification

2014-01-30 11:54:16.373 Module Temperature threshold was exceeded. Threshold is 10, received value is 27

6.2 Daily Report

To ensure that Mellanox Care service is running, a continuous daily process pings the service periodically based on a predefined frequency. This configurable time-based daily report is sent to a predefined mailing list along with the activity runs summary.

Mellanox NOC experts monitor daily activity constantly. If a daily report is not reported for a predefined period, the Mellanox expert contacts the customer to verify the Mellanox Care process status, and together with the customer decides on a course of action to bring the service up again. Support experts make their best effort to restore the Mellanox Care service as quickly as possible.

This service also provides enhanced statistical information, which can indicate a potential problem, fabric trend, or fabric malfunction that requires further diagnosis or immediate handling to avoid fabric downtime. The daily report contains the following information:

- The Subject field contains:
  - Subject Name (i.e. daily report)
  - The Customer's name
  - Timestamp
- The message field contains:
  - A link to FTP
  - A table that lists the alarms and traps received during the past day

6.2.1 Daily Report Derived Log Files

Mellanox Care daily report derives the following log files automatically whenever an alert occurs.

Table 7 - Mellanox Daily Report Derived Log Files

Source	Description
Health Engine	Fabric Health report and UFM health report
Mellanox Care Server	Mellanox_care.log
	Run_summary.log
	Run_summary.html (HTML version of all run_summaries of the specific day)

6.2.2 Daily Report Table Information

Table 8 - Daily Report Table Information

Subject	Message
Run ID	Link to FTP
Start Time	The timestamp of the traps and alarms collection
Duration	Collection time length (1 represents 1 second). If the duration increases, it could indicate a potential problem, fabric trend, etc.
Critical alarms	The amount of existing critical alarms
Alarms	The amount of total alarms (critical, minor, warning, info)
Percentage	Critical alarms divided by total alarms
Critical Traps	The amount of existing critical traps
Traps	The amount of total traps (critical, minor, warning, info)
Percentage	Critical traps divided by total traps
Case Opened	The amount of opened cases per time period

Figure 8: Daily Report Example

Subject:
<CNT_PASSCODE> Keep Alive from MCare @ <CUSTOMER NAME>
"TIMESTAMP"

Message:

Summary files on FTP: ftp://193.47.165.178/summary_2014-01-30_16-57-51

Run ID	Start Time	Duration	Critical Alarms	Alarms	Percentage	Critical Traps	Traps	Percentage	Case Opened
1	2014-01-29 12:57:54	1	0	10	0	12	100	12	No
2	2014-01-29 13:00:01	1	0	10	0	0	0	0	No
3	2014-01-29 13:30:01	1	0	10	0	1	10	10	No
4	2014-01-29 14:00:02	1	0	10	0	1	10	10	No
5	2014-01-29 14:30:01	1	0	10	0	0	0	0	No
6	2014-01-29 15:00:02	1	0	10	0	0	0	0	No
7	2014-01-29 15:30:01	1	0	10	0	0	0	0	No
8	2014-01-29 16:00:02	1	0	10	0	0	0	0	No
9	2014-01-29 16:30:01	1	0	10	0	0	0	0	No
10	2014-01-29 17:00:02	1	0	10	0	0	0	0	No
11	2014-01-29 18:00:01	1	0	10	0	1	9	12	No
12	2014-01-29 18:30:01	1	0	10	0	3	28	11	No
13	2014-01-29 19:30:01	1	0	10	0	1	9	12	No
14	2014-01-29 20:00:01	1	0	10	0	2	27	8	No

6.3 Monthly Report

The monthly report contains the following information:

- The Subject field contains:
  - Subject Name (Monthly Report From MCare @ customer_ month)
  - The Customer's name
  - Timestamp
- The message field contains:
  - A table summery of cases listed according to site, switches and servers.
  - A table summery of the list of case opened in the last month including date and number of cases.

Figure 9: Mellanox Care Monthly Report Example

Dear Customer,

*** This is an automatic e-mail from the Mellanox Care Service ***

As part of your Mellanox Care service,

we are sending you this monthly report of the activities performed by Mellanox NOC during the past month.

The following cases opened during the last month:

Site	Switches	Servers
site1	3	5

Date	Number of Cases
2013-12-06 01:03:10	2
Total	2

Please note that any cases that are still open will be handled by Mellanox NOC, and you will be updated accordingly as to the ongoing status of the case.

We hope that you are satisfied with the service you are receiving from Mellanox Care.

If you require any additional assistance, or if you would like to provide feedback on your experience, please contact:

Mellanox contact details
Email: support@mellanox.com
Phone: +1 408.916.0055

Sincerely,

Mellanox Care

Mellanox Care

With You Every Step of the Way

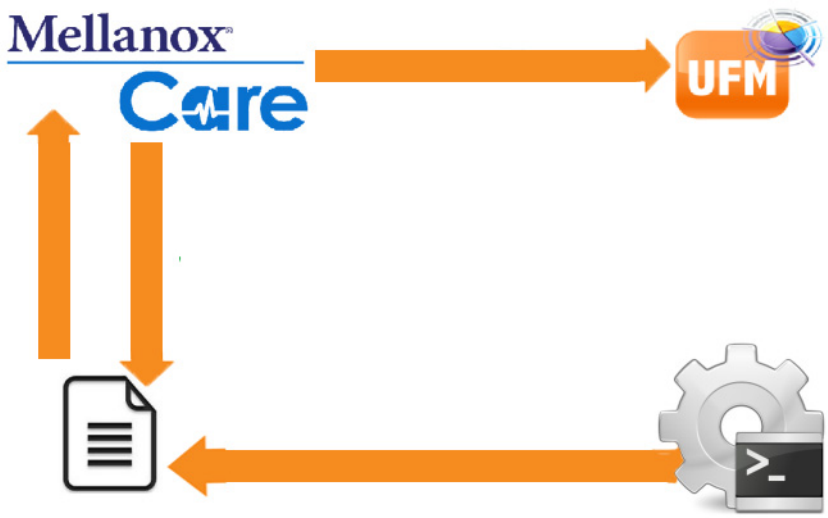
7 Third Party Alarms

In addition to events given by the health provider (UFM), Mellanox Care supports also external events that were generated by third party utilities. The external events can be used to integrate Mellanox Care with third party tools that discover alarms which are not part of the standard model of the basic health provider.

Third party alarms work as follow:

1. The third party tools write their output files into the relevant site external events directory. For example, a third party tool for 'site1' should direct its output files to:
   `/opt/mlnxcare/external/site1/.`
   These files name shall be of the format:
   `<timestamp %Y-%m-%d-%H-%M-%S>_<3rd_party_tool_name>.out (e.g. 2014-10-10-10-10-10_test1.out).`
2. Mellanox Care reads the external event files during its run and triggers an event on the health provider. One event will be triggered per utility, for example the files `2014-10-10-10-10-10_test1.out and 2014-10-10-10-10-11_test1.out` that were both generated by third party tool called 'test1', will trigger one event on the health provider of 'site1'. This event will be also saved to Mellanox Care database, so it will be ignored on the next run of Mellanox Care.
3. Mellanox Care attaches the external event files to the case sent to Mellanox Support together with the rest of the files collected by the Mellanox Care from its health providers.

Figure 10: Third Party Alarms Workflow



Appendix A: Mellanox Care Events Configuration List

Table 9 - Mellanox Care Events Configuration List

Event ID	Event Name	Event code name	Severity	Threshold	TTL	Event Description
110	Symbol Error	PM_SYMBOLERROR	Critical	200	300	Symbol-Error counter rate threshold exceeded. Threshold is %d, received value is %d.
111	Link Error Recovery	PM_LINKERRORRECOVERY	Critical	1	300	Link-Error-Recovery counter rate threshold exceeded. Threshold is %d, received value is %d.
112	Link Downed	PM_LINKDOWNEDCOUNTER	Critical	4	600	Link-Downed counter rate threshold exceeded. Threshold is %d, received value is %d.
113	Port Receive Errors	PM_PORTRCVERRORS	Critical	75	300	PortRcvErrors counter rate threshold exceeded. Threshold is %d, received value is %d.
114	Port Receive Remote Physical Errors	PM_PORTRCVREMOTEPHYSICALERRORS	Critical	75	300	PortRcvRemotePhysicalErrors counter rate threshold exceeded. Threshold is %d, received value is %d.
117	Port Xmit Constraint Errors	PM_PORTXMITCONSTRAINTERRORS	Critical	75	300	PortXmitConstraintErrors counter rate threshold exceeded. Threshold is %d, received value is %d.
118	Port Receive Constraint Errors	PM_PORTRCVCONSTRAINTERRORS	Critical	75	300	PortRcvConstraintErrors counter rate threshold exceeded. Threshold is %d, received value is %d.
119	Local Link Integrity Errors	PM_LOCALLINKINTEGRITYERRORS	Critical	5	300	LocalLinkIntegrityErrors counter rate threshold exceeded. Threshold is %d, received value is %d
120	Excessive Buffer Overrun Errors	PM_EXCESSIVEBUFFEROVERRUNERRORS	Critical	75	300	ExcessiveBufferOverrunErrors counter rate threshold exceeded. Threshold is %d, received value is %d.
122	Congested Bandwidth (%) Threshold Reached	PM_XMITWAITERROR	Critical	10	300	Congested Bandwidth (in percents) threshold exceeded. Threshold is %d, received value is %d.
130	Non-optimal link width	PHY_NON_OPTIMAL_WIDTH	Critical	1	7200	Found a %s link that operates in %s width mode.

Table 9 - Mellanox Care Events Configuration List

Event ID	Event Name	Event code name	Severity	Threshold	TTL	Event Description
134	T4 Port Congested Bandwidth	PM_T4XMITWAITERROR	Critical	10	300	T4 Congested Bandwidth (in percents) threshold exceeded. Threshold is %s received value is %s.
135	T4 Port Normalized Transmit Wait	PM_T4NORMALIZED_XW	Critical	10	350	T4 Normalized Transmit Wait counter threshold exceeded. Threshold is %s received value is %s.
252	License expired	UFM_LICENSE_EXPIRED	Critical	1	7200	%s License has expired. Please restart UFM server
254	License Limit Exceeded	UFM_LICENSE_LIMIT	Critical	1	7200	Managed fabric size %s. Please refer to your system vendor representative to update your license.
259	Bad P_Key Switch External Port	SM_BAD_PKEY_EXT	Critical	1	300	Bad P_Key switch external port: port1(lid %(lid)d, #%(portn)d) %(pkey)08x, port2(lid%(lid2)d #%(portn2)d)
271	ISBL LAG Port Up	ISBL_LAG_PORT_UP	Critical	1	7200	ISBL %s LAG port up
272	ISBL LAG Port Down	ISBL_LAG_PORT_DOWN	Critical	1	7200	ISBL %s LAG port down
273	LAG Port Up	LAG_PORT_UP	Critical	1	7200	LAG %s port up
274	LAG Port Down	LAG_PORT_DOWN	Critical	1	7200	LAG %s port down
275	Port Up	PORT_UP	Critical	1	7200	Port %s up
276	Port Down	PORT_DOWN	Critical	1	7200	Port %s down
277	Port of LAG Up	PORT_OF_LAG_UP	Critical	1	7200	Port %s of LAG up
278	Port of LAG Down	PORT_OF_LAG_DOWN	Critical	1	7200	Port %s of LAG down
279	Port of ISBL Up	PORT_OF_ISBL_UP	Critical	1	7200	Port %s of ISBL up
280	Port of ISBL Down	PORT_OF_ISBL_DOWN	Critical	1	7200	Port %s of ISBL down
301	Logical Server State Changed	STATE_CHANGED	Critical	1	7200	Logical Server changed state from %s to %s

Table 9 - Mellanox Care Events Configuration List

Event ID	Event Name	Event code name	Severity	Threshold	TTL	Event Description
328	Link is Up	LINK_UP	Critical	1	7200	Link is up: %s
329	Link is Down	LINK_DOWN	Critical	1	7200	Link went down: %s
372	Number of Gateways is Changed	GW_VOL10G_NUM_ROUTERS_CHANGE	Critical	1	7200	Change in the number of 10GbE Gateways has been detected in interface %s new number is %s
381	Switch Upgrade Error	SW_UPGRADE_FAILED	Critical	1	7200	Software upgrade on switch %s (%s) failed
392	Module Temperature Threshold Reached	MODULE_TEMPERATURE_EXCESS	Critical	10	300	Module Temperature threshold was exceeded. Threshold is %d, received value is %d.
394	Module status FAULT	MODULE_STATUS_FAULT	Critical	1	86000	Module %s %s on %s(%s) status is %s
512	SM Failover	SM_FAILOVER	Critical	1	300	SM Failover. New SM is running on %s, GUID %s
514	SM LID Change	SM_LID_CHANGE	Critical	1	300	SM lid of port %(guid)016x is changed
517	Fabric Health Report Error	FABRIC_HEALTH_REPORT_ERROR	Critical	1	1800	FabricHealth Report completed with %s Errors and %s Warnings
518	UFM-related process is down	UFM_PROCESS_DOWN	Critical	1	300	Process %s is down.
521	UFM is being stopped	STOPPING_UFM	Critical	1	300	Stopping UFM server now...
522	UFM is being restarted	RESTARTING_UFM	Critical	1	300	Restarting UFM server now...
523	UFM failover is being attempted	ATTEMPTING_UFM_FAILOVER	Critical	1	300	Attempting UFM failover...
524	UFM cannot connect to DB	CANNOT_CONNECT_TO_DB	Critical	1	1800	Connection to the database failed.

Table 9 - Mellanox Care Events Configuration List

Event ID	Event Name	Event code name	Severity	Threshold	TTL	Event Description
525	Disk utilization threshold reached	DISK_THRESHOLD_REACHED	Critical	1	43000	Disk space usage in %s is above the threshold of %d
526	Memory utilization threshold reached	MEMORY_THRESHOLD_REACHED	Critical	100	300	Memory usage is above the threshold of %d
527	CPU utilization threshold reached	CPU_THRESHOLD_REACHED	Critical	300	300	CPU usage is above the threshold of %d
528	Fabric interface is down	FABRIC_IFACE_DOWN	Critical	1	43000	Fabric interface %s is down.
529	UFM standby server problem	UFM_STANDBY_PROBLEM	Critical	1	43000	Problem with UFM standby server: %s.
530	SM is down	SM_IS_DOWN	Critical	1	300	SM is down (%s).
531	DRBD Bad Condition	DRBD_BAD_COND	Critical	1	43000	Drbd bad condition detected, failover or takeover will fail.
533	Remote UFM-SM problem	EXTR_UFM_SM_PROBLEM	Critical	1	7200	%s
537	UFM Health Watchdog Critical	UFM_HEALTH_WATCHDOG_CRITICAL	Critical	1	300	Message
538	Time Diff Between HA Servers	HA_TIME_DIFF	Critical	100	300	Time difference between master and standby machines is above the threshold of %d seconds. Master time is: %s, standby time is: %s.
539	DRBD TCP Connection Performance	DRBD_BAD_CONNECTION_PERFORMANCE	Critical	300	900	Message
602	UFM Server Failover	UFM_FAIL_OVER	Critical	1	7200	Server %s failed, server %s took ownership
603	Events Suppression	EVENTS_SUPPRESSION	Critical	300	300	%s events are suppressed

Table 9 - Mellanox Care Events Configuration List

Event ID	Event Name	Event code name	Severity	Threshold	TTL	Event Description
605	Report Failed	REPORT_FAILED	Critical	100	300	%s Report failed, %s
701	Non-optimal Link Speed	PHY_NON_OPTIMAL_SPEED	Critical	1	7200	Found a %s link that operates in %s speed mode.
702	Unhealthy IB Port	UNHEALTHY_IB_PORT	Critical	1	7200	Peer Port %s is considered by SM as unhealthy due to %s.
903	Fabric Configuration Failed	FABRIC_CONFIG_FAILED	Critical	50	7200	Fabric Configuration failed. (Please see log for more details)
904	Device Configuration Failure	DEVICE_CONFIG_ACTION_FAILED	Critical	50	7200	Configuration action on device - %s (%s) failed. (Please see log for more details)
905	Device Configuration Timeout	DEVICE_CONFIG_ACTION_TIMEOUT	Critical	50	7200	Configuration action on device - %s (%s) Got timeout. (Please see log for more details)
906	Provisioning Validation Failure	PROVISIONING_VALIDATION_FAILURE	Critical	50	7200	Provisioning validation of fabric failed. (Please see log for more details)